

# इंटरनेट

# मानक

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Part II: Designation Numbers 12, 20, 21, 46, 47, 153 and  
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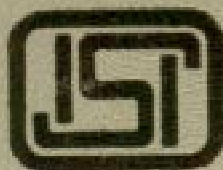
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IS : 3890 ( Part II ) - 1967

*Indian Standard*  
SPECIFICATION FOR  
INSTRUMENTS, PLASTIC, FILLING, DENTAL  
PART II DESIGNATION NUMBERS 12, 20, 21, 46,  
47, 153 AND 183

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INDIAN STANDARDS INSTITUTION  
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***Indian Standard***  
**SPECIFICATION FOR**  
**INSTRUMENTS, PLASTIC FILLING, DENTAL**  
**PART II DESIGNATION NUMBERS **12**, 20, 21, 46,**  
**47, **153** AND **183****

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***Indian Standard***  
**SPECIFICATION FOR**  
**INSTRUMENTS, PLASTIC FILLING, DENTAL**  
**PART II DESIGNATION NUMBERS 12, 20, 21, 46,**  
**47, 153 AND 183**

**0. FOREWORD**

0.1 This Indian Standard ( Part II ) was adopted by the Indian Standards Institution on 29 November 1967, after the draft finalized by the Dental Instruments Sectional Committee had been approved by the Consumer Products Division Council.

0.2 This standard is one of a series of Indian Standards on dental cutting and filling instruments and has been formulated at the instance of the Advisory Committee for Development of Medical Instruments, Equipment and Appliances of the Government of India. Other standards published so far in the series are:

IS : 3887-1966 General requirements for cutting type dental instruments

IS : 3888-1967 Specification for spatula ( dental )

IS : 3889-1967 Specification for dental chisel

IS : 3890 ( Part I )-1967 Specification for instruments, plastic filling, dental

0.3 'Indian Standard specification for instruments, plastic filling, dental ' [ IS : 3890 ( Part I )-1967 ] covers plastic filling instruments of designation numbers 1, 3, 4, 5 and 6. This part covers instruments of designation numbers 12, 20, 21, 46, 47, 153 and 183. All types, grades and sizes of plastic filling instruments which are commercially available are not covered, but it is expected that the instruments covered in these two parts would cater to most needs of filling instruments in dental surgery.

0.4 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS : 2-1960". The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

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**1. SCOPE**

1.1 This standard ( Part II ) specifies the requirements of dental plastic filling instruments of designation numbers 12, 20, 21, 46, 47, 153 and 183.

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\*Rules for rounding off numerical values (mired).

## **2. MATERIAL**

**2.1** The instruments shall be made either from carbon steel or stainless steel conforming to designations given below:

|                 |  |
|-----------------|--|
| Carbon steel    | <b>T50</b> of Schedule <b>VI</b> of IS :1570-1961* |
| Stainless steel | <b>30Cr13</b> of Schedule V of IS : 1570-1961*     |

## **3. SHAPES AND DIMENSIONS**

**3.1** Each instrument shall be made in one piece only and shall conform to shapes and dimensions as shown in Fig. 1 to 7.

**3.2** The handles of the instruments shall be octagonal in shape and shall have cuts on all sides except space for marking. The cuts shall conform to 3.3.1 of IS : 3887-1966-j..

## **4. WORKMANSHIP AND FINISH**

**4.1** The instruments shall be free from pits, cracks, seams and other defects. All surfaces except the handle and serrated working ends shall be smooth.

**4.2** The instruments made of stainless steel shall be passivated and finished bright all over. The cuts on handle and serrations at the ends shall be clear and clean. In case of instruments made of carbon steel, they shall be plated chromium over nickel. The thickness of the plating shall be as follows:

| <i>Finish</i> | <i>Minimum Thickness</i> |
|---------------|--------------------------|
| Nickel        | 15 microns               |
| Chromium      | 0.5 micron               |

**4.2.1** The plating shall be even and uniform throughout and shall be free from visible plating defects. In all other respects the plating shall conform to IS :1068-1958†.

## **5. HEAT TREATMENT**

**5.1** The stainless steel instruments shall be hardened and tempered throughout, while in case of carbon steel instruments, only the working ends of the instruments shall be hardened to lengths as shown in Fig. 1 to 7. The hardness shall be 430 to 490 *HV*.

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\*Schedules for wrought steels for general engineering purposes.

†General requirements for cutting type dental instruments.

‡Specification for copper, nickel and chromium electroplated coatings.

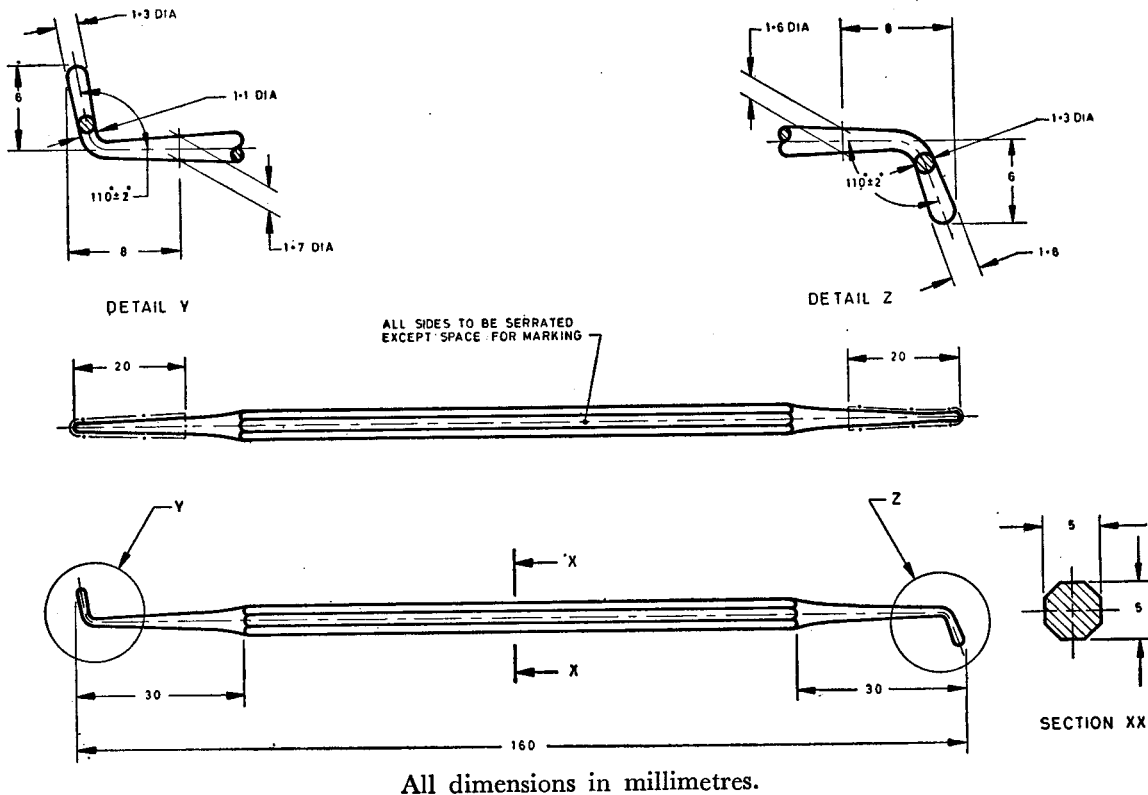
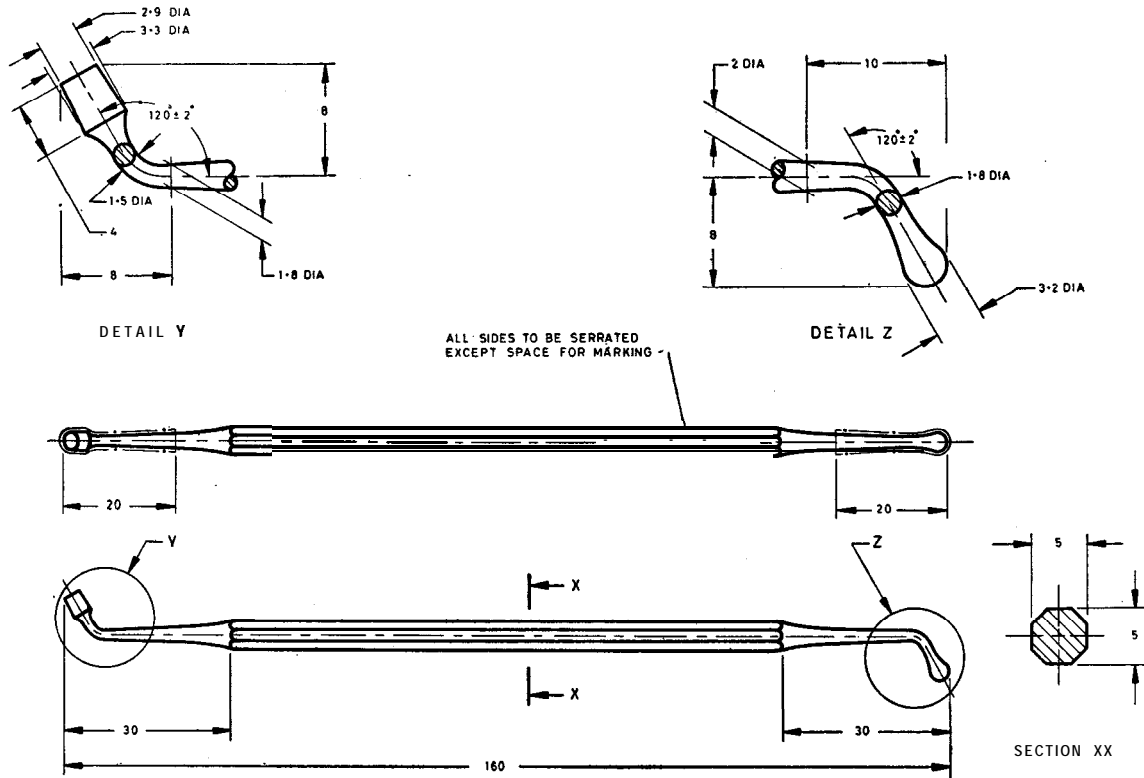


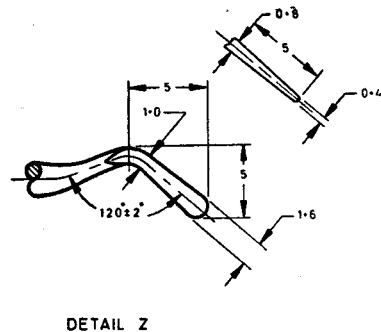
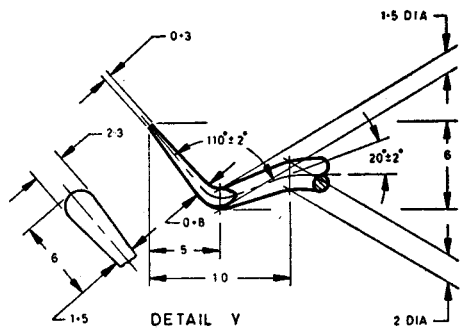
FIG. 1 PLASTIC FILLING INSTRUMENT, DENTAL, No. 12



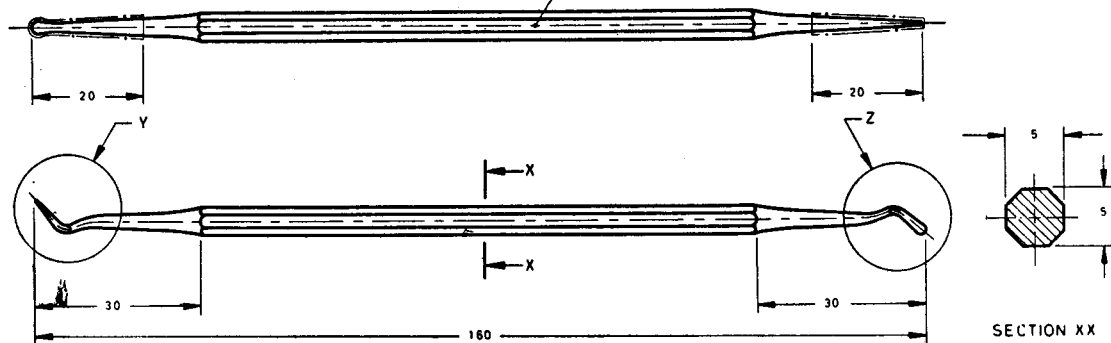


All dimensions in millimetres.

**FIG. 2 PLASTIC FILLING INSTRUMENT, DENTAL, No. 20**



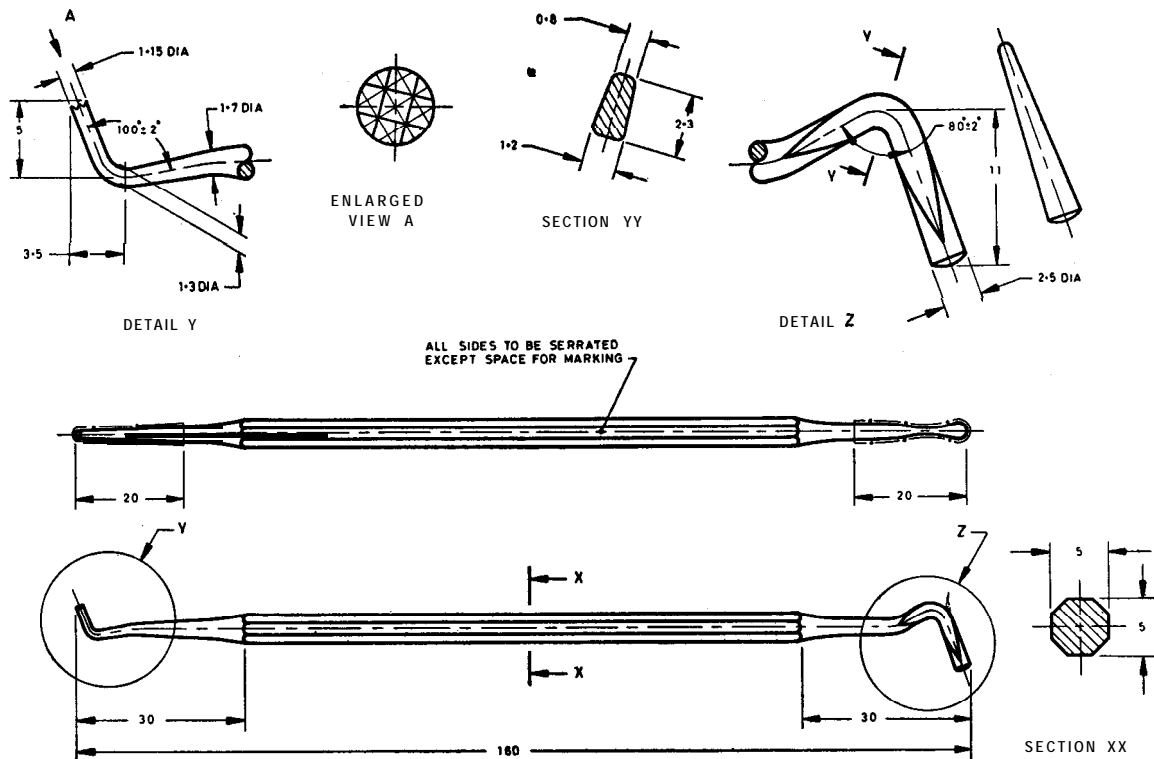
ALL SIDES TO BE SERRATED  
EXCEPT SPACE FOR MARKING



All dimensions in millimetres.

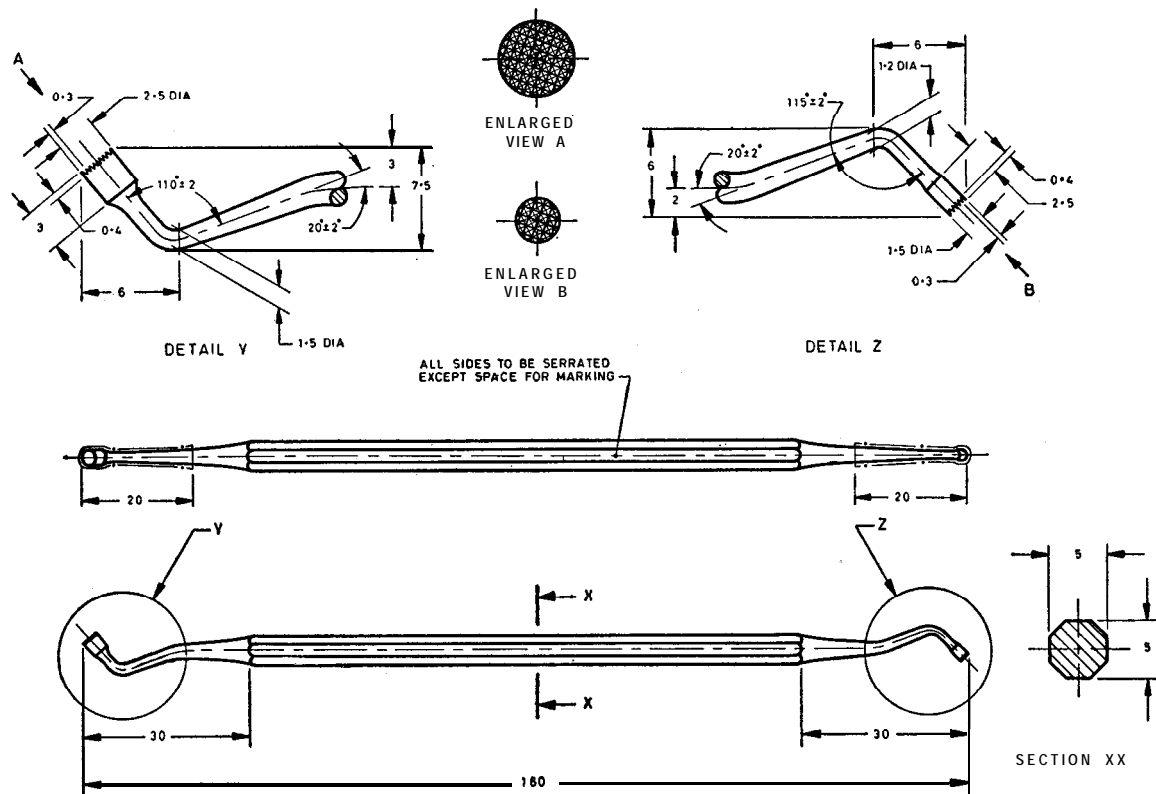
FIG. 3 PLASTIC FILLING INSTRUMENT, DENTAL, No. 21





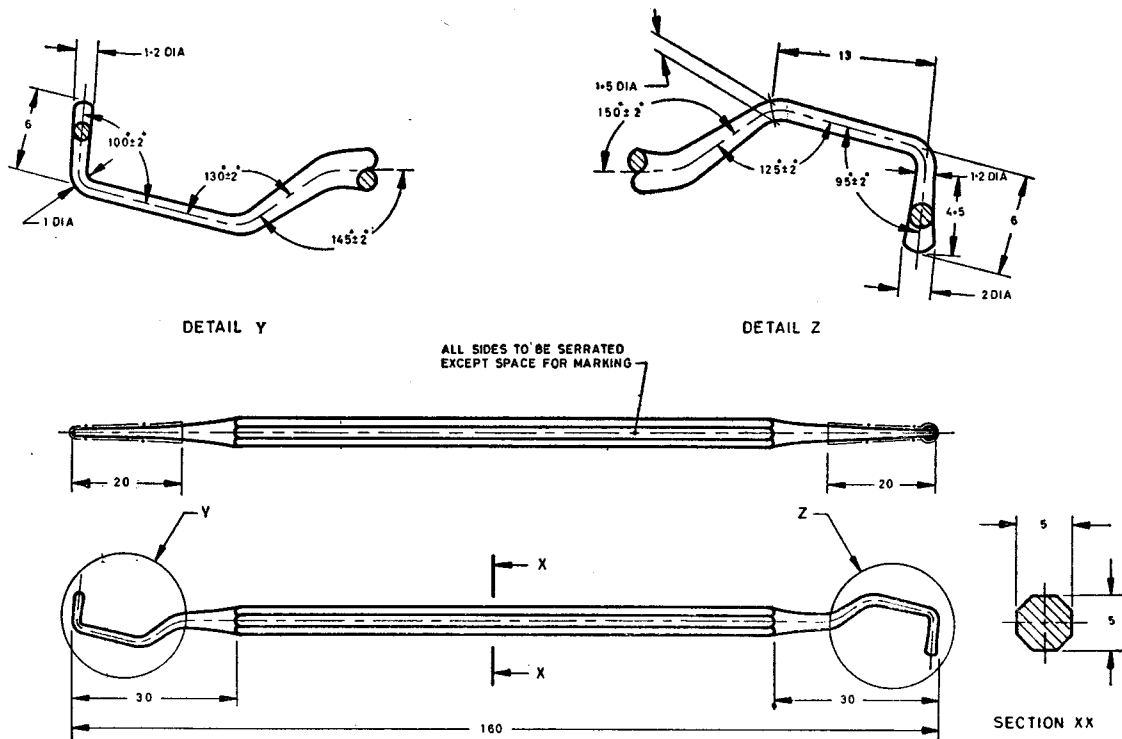
All dimensions in millimetres.

FIG. 5 PLASTIC FILLING INSTRUMENT, DENTAL, No. 47



All dimensions in millimetres.

**FIG. 6 PLASTIC FILLING INSTRUMENT, DENTAL, No. 153**



All dimensions in millimetres.

FIG. 7 PLASTIC FILLING INSTRUMENT, DENTAL, No. 183

## **6. TESTS**

**6.1 Practical Test** — The working end of the instrument shall be applied to the top of a compression-type spring balance. Gripping the handle about the middle of its length, a force of 0.5 kgf shall be applied gradually. On release of the force, the instrument shall show no sign of damage and shall not have acquired a permanent set.

**6.2 Flexibility Test** — The handle of the instrument shall be gripped in a vice so that the whole length of the shank protrudes out of the vice jaw. A force of 0.5 kgf shall be gradually applied at a distance of 2 mm from the end in a direction perpendicular to the axis and opposite to the curvature. On release of the force, the instrument shall show no sign of damage and shall not have acquired a permanent set.

**6.3 Test for Corrosion Resistance** — The stainless steel instruments shall be tested for corrosion resistance as given in 8 of IS : 3887-1966\*.

## **7. MARKING**

**7.1** The space on the handle shall be marked with the number of instrument, manufacturer's name, initials or trade-mark and country of manufacture. In case of instruments made of stainless steel, the letters 'SS' shall also be marked on the handle.

7.1.1 Instruments may also be marked with the IS1 Certification Mark.

**NOTE—**The use of the IS1 Certification Mark is governed by the provisions of the Indian Standards Institution ( Certification Marks ) Act, and the Rules and Regulations made thereunder. Presence of this mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard, under a well-defined system of inspection, testing and quality control during production. This system, which is devised and supervised by IS1 and operated by the producer, has the further safeguard that the products as actually marketed are continuously checked by IS1 for conformity to the standard. Details of conditions, under which a licence for the use of the IS1 Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

## **8. PACKING**

**8.1** Each of the carbon steel instruments shall be coated with a suitable preservative solution containing corrosion inhibitors and wrapped in wax paper. Instruments shall then be packed in cartons bearing the number of the instrument, manufacturer's name, initials or trade-mark, and the country of manufacture.

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\*General requirements for cutting type dental instruments.

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The Indian Standards Institution ( **ISI** ), which started functioning in 1947, is the national standards organization for India. Its principal object is to prepare standards on national and international basis and promote their general adoption,

The overall control of **ISI**, which is run and financed jointly as a non-profit making body by the Government and private enterprise, is exercised by the General Council, composed of representatives of Central and State Governments: leading trade, scientific and technological organizations: and subscribing members. The Union Minister of Industry is the ex-officio President of **ISI**.

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To make available benefits of Indian Standards to the common man, **ISI** has introduced its Certification Marks Scheme under the *Indian Standards Institution ( Certification Marks ) Act, 1952*, as amended by the Amendment Act, 1961. According to this Act, quality goods conforming to Indian Standards can carry the **ISI Certification Mark**. This Mark is a third-party guarantee of quality of marked goods. **Licences** to use the **ISI Certification Mark** are granted to manufacturers using reliable methods of quality control subject to overall inspection by **ISI**.

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